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Remarks

Applicant and his representatives thank Examiner Chung for the very helpful and courteous discussion held with the undersigned on July 12, 2006. The claims have been amended as discussed and in accordance with the Examiner's suggestions; for example, claim 1 affirmatively recites receiving a plurality of data portions and a further portion containing data and non-data. In addition, claim 1 also affirmatively recites adding a zero-pad vector to the remainder to generate a zero-padded data portion. Independent circuit claims 13 and 37 include limitations similar to those recited in method claim 1 (e.g., digital information comprising a plurality of data portions and a further portion containing data and [said] non-data, each of the data portions and the further portion having a fixed first length; removing said non-data from the further portion to generate a remainder having a second length less than said fixed first length [claim 37 only]; combining the data from said further portion with said zero-pad vector to generate a zero-padded data portion having the fixed first length). The following remarks (which include a flow chart and diagrams similar to those drawn during the discussion with Applicant's undersigned representative) shall further summarize and expand upon topics discussed.

Claims 1-63 are active in the present application.

The Rejection of Claims 1-63 under 35 U.S.C. § 103(a)

The rejection of Claims 1-63 under 35 U.S.C. § 103(a) as being unpatentable over the "Discussion of the Background" from the present application in view of Greenwood et al. is respectfully traversed.

First, Applicant thanks Examiner Chung for recognizing that the "Discussion of the Background" from the present application does not disclose adding a zero-pad vector to a remainder (i.e., a portion of digital information having a fixed first length and containing data and non-data, from which the non-data is removed) to generate a zero-padded data portion having the fixed first length. As a result, the "Discussion of the Background" from the present application also cannot disclose or suggest checking the zero-padded data portion for a

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transmission error. Consequently, the "Discussion of the Background" from the present application is deficient with regard to at least two steps of the present claims 1-12 (and the computer-readable medium or waveform of claims 58-63).

However, to clarify and preserve the record, at no point has Applicant or any of Applicant's representatives admitted that the "Discussion of the Background" from the present application constitutes prior art. Furthermore, at no point anywhere in the present application is the "Discussion of the Background" section characterized as prior art. Thus, Applicant hereby traverses the effective assertion of official notice that the "Discussion of the Background" from the present application is admitted prior art or is otherwise available as prior art against the present claims.

The Examiner is invited to take official notice that Applicant's "Discussion of the Background" is commonly known in the art (or, perhaps, that somehow Applicant has admitted that the "Discussion of the Background" from the present application is available as prior art) and rely on a self-executed Affidavit attesting to personal knowledge of facts establishing such technology as prior art available under 35 U.S.C. § 102 against the claims:

"If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding." M.P.E.P. § 2144.03, citing 37 C.F.R. 1.104(d)(2).

Consequently, any further Office Action must provide documentary evidence if the rejection is to be maintained. See M.P.E.P. § 2144.03; see also *In re Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 ("[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings" to satisfy the substantial evidence test).

That being said, even if one assumes for the sake of argument that the "Discussion of the Background" from the present application is available against the present claims, Greenwood et al. does not cure all of the deficiencies of the "Discussion of the Background" from the present application with regard to the present claims 1-12. To summarize, the method of claims 1-12 can

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be represented in a general sense by the following flow chart, which is presented for example purposes only:

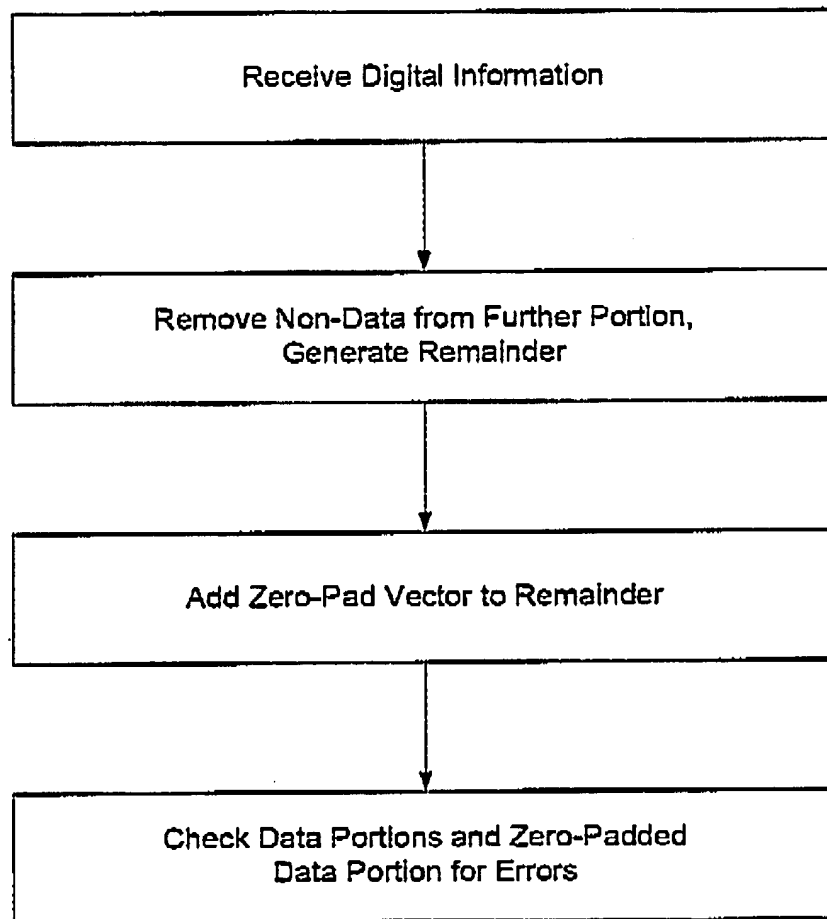


Fig. 1: Flow chart.

More specifically, however, the received digital information comprises a plurality of data portions and a further portion containing both data and non-data:

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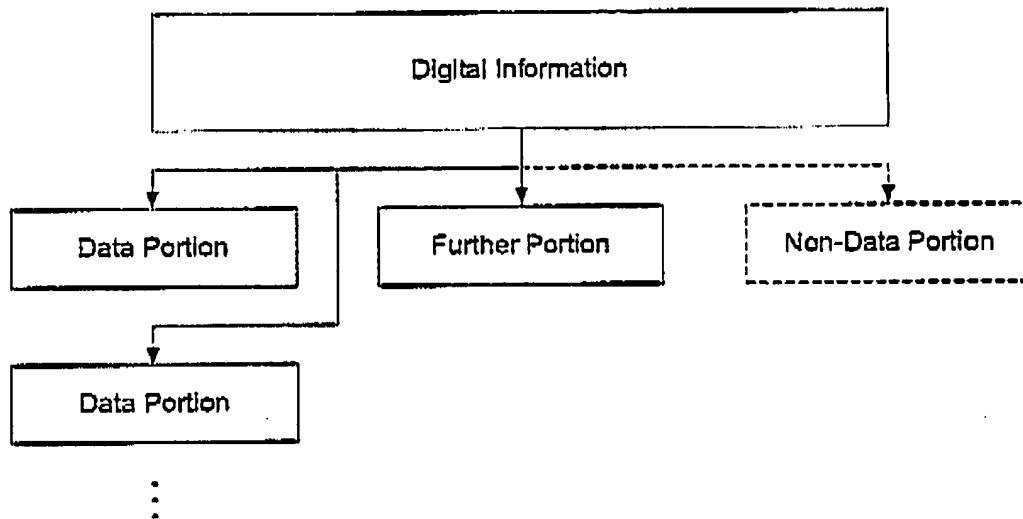


Fig. 2: Digital information.

Thus, the digital information received in the method of claims 1-12 includes (i) a plurality of data portions and (ii) a further portion containing both data and non-data. (The information may further include non-data portions [see., e.g., paragraph [0029]], but such non-data portions are not required by claim 1.)

Furthermore, each of the data portions and the further portion having a fixed first length, as does the zero-padded data portion generated in step c) of claim 1. The remainder has a second length, which can be variable or fixed (see, e.g., paragraphs [0035] and [0039] of the specification and claim 5 above), but which is less than the fixed first length:

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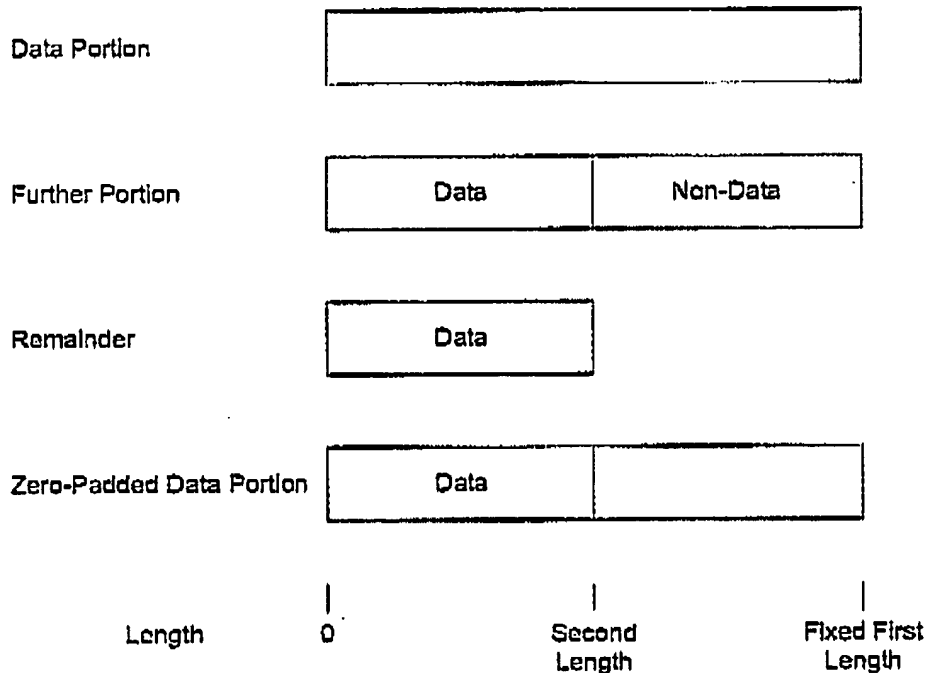


Fig. 3: Exemplary lengths of portions of information and remainder.

The "Discussion of the Background" from the present application does not disclose or suggest the last two steps of the flow chart above. While Greenwood et al. discloses a general process of adding a zero pad vector to data and error-checking zero-padded data, Greenwood et al. does not describe or suggest (i) adding a zero pad vector *to a remainder* (i.e., the part of a fixed-length portion of received information including data and non-data, and having non-data removed therefrom) to form a zero-padded data portion having the same fixed length as other portions of received information (including the portion of received information including data and non-data), or (ii) checking portions of received data *and* zero-padded data *having the first fixed length* for transmission errors, as recited in the present claims 1-12, nor does Greenwood et al. appear to provide any motivation to do so.

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Greenwood et al. discloses a method and apparatus for frequency domain data frame transmission (Title). A transmitter generates a data frame of predetermined length for transmission, comprising a payload and an error detection portion. The frame length is equal to the length which would map for transmission into a symbol in the transmission channel if the entire channel were selected for transmission. The payload contains a header and a data portion, into which the transmitter inserts data bytes and a number of padding bytes. Block coding error correction is performed on the padded payload to generate error detection bytes to fill the error detection portion. The frame is then mapped into the frequency domain for transmission such that the header, data and error detection bytes map into the selected channel portions and the padding bytes map into the unused channel portions and are not transmitted. At a receiver, the padding bytes are reinstated and error detection performed to correct transmission errors in the header and the data (see the Abstract of Greenwood et al.).

The data frame of FIG. 4 of Greenwood et al. is a transmission frame, rather than a received frame (col. 6, ll. 19-49). The reduced-length frame 20 as illustrated in FIG. 5, containing only the header 11, data bytes 16 and error detection portion 14 (and no zero padding), appears to be received (col. 7, ll. 11-15 of Greenwood et al.). At the receiver, the mapping is reversed and the padding bytes reinserted to regain the frame in the time domain for decoding (col. 7, ll. 16-18 of Greenwood et al.). In addition, the receiver can replace the padding 18 into the reduced-length frame to regenerate the full-length, 255 byte frame originally generated at the transmitter (col. 7, ll. 21-25 and FIG. 6 of Greenwood et al.). The receiver can then use the block code error detection bytes to remove errors, where possible, from the header and data portions of the frame (col. 7, ll. 25-27 of Greenwood et al.). As a result, it does not appear that Greenwood et al. disclose or suggest (i) adding a zero pad vector *to a remainder* (as defined in claim 1) or (ii) checking portions of received data *and* zero-padded data *having the first fixed length* for transmission errors, as recited in the present claims 1-12.

Therefore, the combination of the "Discussion of the Background" from the present application and Greenwood et al. fails to disclose or suggest all of the limitations of the present claims 1-12. Furthermore, neither the "Discussion of the Background" from the present

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application nor Greenwood et al. appear to provide any motivation to select certain parts of the disclosures and combine them in the manner necessary to arrive at the method recited in claim 1. As a result, the present claims 1-12 are patentable over the combination of the "Discussion of the Background" from the present application and Greenwood et al.

Both the "Discussion of the Background" from the present application and Greenwood et al. appear to be silent with regard to a computer-readable medium or waveform containing a set of instructions. Therefore, the combination of the "Discussion of the Background" from the present application and Greenwood et al. fails to disclose or suggest all of the limitations of the present claims 58-63 (which are drawn to a computer-readable medium or waveform, and which depend, directly or indirectly, from claim 1).

Similar to claim 1, independent circuit claim 13 recites a logic circuit configured to receive digital information comprising *a plurality of data portions and a further portion containing data and said non-data, each of the data portions and the further portion having a fixed first length*, and an error detection circuit configured to (1) combine the data from said further portion with a zero-pad vector to generate *a zero-padded data portion having the fixed first length*, and (2) detect a transmission error in the data portions and the zero-padded data portion. As discussed above, the combination of the "Discussion of the Background" from the present application and Greenwood et al. fails to disclose or suggest (i) adding a zero pad vector to the data from a portion of information containing both data and non-data (where the information further contains a plurality of data portions *having the same fixed length* as the portion containing both data and non-data) or (ii) checking portions of received data *and zero-padded data having the same fixed length* for transmission errors. Therefore, the combination of the "Discussion of the Background" from the present application and Greenwood et al. fails to disclose or suggest all of the limitations recited in the present claims 13-36.

Finally, the present independent claim 37 recites (a) means for receiving digital information and detecting non-data in the digital information, the digital information comprising a plurality of data portions and a further portion containing data and the non-data, each of the data portions and the further portion having a fixed first length, (b) means for removing the non-

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data from the further portion to form a remainder having a second length less than the fixed first length, (c) means for combining a zero-pad vector with the remainder to form a zero-padded data portion having the fixed first length; and (d) means for detecting a transmission error in both the data and zero-padded data portions, similar to claim 1. As discussed above, the combination of the "Discussion of the Background" from the present application and Greenwood et al. fails to disclose or suggest (i) adding a zero pad vector to a remainder to form a zero-padded data portion *having the same fixed length* as a plurality of data portions of received information or (ii) checking portions of received data *and* zero-padded data *having the same fixed length* for transmission errors. Furthermore, neither the "Discussion of the Background" from the present application nor Greenwood et al. appear to provide any motivation to select certain parts of the disclosures and combine them in the manner necessary to arrive at the circuit recited in claim 37. Therefore, the combination of the "Discussion of the Background" from the present application and Greenwood et al. fails to disclose or suggest all of the limitations recited in the present claims 37-56.

Consequently, all of the present claims are fully patentable over combination of the "Discussion of the Background" from the present application and Greenwood et al. As a result, this ground of rejection is unsustainable, and should be withdrawn.

#### Conclusions

In view of the above amendment and remarks, all bases for rejection are overcome, and the application is in condition for allowance. Early notice to that effect is earnestly requested.



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If it is deemed helpful or beneficial to the efficient prosecution of the present application,  
the Examiner is invited to contact Applicant's undersigned representative by telephone.

Respectfully submitted,



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